



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,590	11/06/2000	Charles Baker	C40270/120935	6235
21003	7590	03/10/2004	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EASHOO, MARK	
			ART UNIT	PAPER NUMBER

1732

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/706,590

Applicant(s)

BAKER, CHARLES

Examiner

Mark Eashoo, Ph.D.

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21, 24-33, 35-44 and 47-60 is/are pending in the application.
- 4a) Of the above claim(s) 1-18, 39-44, 47, 59 and 60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-21, 23-33, 35-38, 48-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of group II, claims 19-38, 45-46, and 48-58, the papers filed 17-APR-2003 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-18, 39-44, 47 and 59-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claim group I, there being no allowable generic or linking claim. Election was made **without** traverse in the papers filed 17-APR-2003.

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 19-21, 23-33, and 35-38, are rejected under 35 U.S.C. 103(a) as being unpatentable over Godavarti et al. (US Pat. 6,265,037) in view Woodhams (US Pat. 5,474,722) and Ertle et al. (US Pat. 6,312,639).

Regarding claims 19 and 27: Godavarti et al. teaches the basic claimed process of forming a composite article, comprising: adding 30-140 mesh wood fibers (8:22-59); drying or heating the fibers to remove moisture (4:45-51); various fillers including glass fibers (12:29-49); and contacting a molten/hot plastic with fibers and then forming the mixture with a die (13:20-67).

It is inherent that the process of extrusion contact a molten plastic with the fibers. Also, Godavarti et al. inherently teaches the broad limitation of injecting hot plastic into a container, since the material is molten in the area of the extruder where intimate mixing occurs within the extruder.

Godavarti et al. does not teach a composite comprising about 35% glass fibers, about 25% wood, and the balance being a plastic material. Nonetheless, Woodhams teaches that fiber content can be a total of about 80% (5:49-51) and Ertle et al. teaches that it is well known the prior art to use a combination of various fillers/fibers (26-51). Godavarti et al., Woodhams, and Ertle et al. are

Art Unit: 1732

combinable because they are from the same field of endeavor, namely forming filled plastic composites. At the time of invention a person having ordinary skill in the art would have found it obvious to have used any combination of fibers or fillers in an amount of up to a total of 80%, as taught by Ertle et al. and Woodhams, in the process of Godavarti et al., and would have been motivated to do so in order to produce a composite of desired mechanical properties (ie. filler content dependent).

Regarding claim 20: Godavarti et al. does not teach a gravimetric feeder. Nonetheless, Woodhams teaches a gravimetric feeder (5:10-12). At the time of invention a person having ordinary skill in the art would have found it obvious to have used a gravimetric feeder, as taught by Woodhams, in the process of Godavarti et al., since Woodhams suggests such feeder provides a controlled weighted quantity of fiber to form a desired resin/fiber mixture.

Regarding claims 21 and 23: Godavarti et al. teaches applying a vacuum to the mixture in a twin screw extruder (4:55-61).

Regarding claims 24 and 25: Godavarti et al. does not teach drying the fibers at about 425°F (218°C). However, Woodhams teaches that wood fibers tend to decompose about 220°C (4:47-50) and that processing in excess of such temperature must be avoided. It is well known in the art that to dry materials, such as wood, at high temperatures in order to remove the greatest amount of water in the shortest processing period. As such a person having ordinary skill in the art would have found it obvious to have dried the fibers at about 425°F, as commonly practiced in the art, in the process of Godavarti et al., and would have been motivated to do so since Woodhams suggests a maximum process temperature of 220°C.

Regarding claim 26: Godavarti et al. teaches dyes (10:44-48).

Regarding claim 28: It is inherent that the extrudate of Godavarti et al. cools, at least to ambient temperature, upon exiting the die.

Regarding claims 29-31: Godavarti et al. does not teach staged cooling, with a first cooling stage to about 200°F (93°C). However, Woodhams teaches staged cooling, with a first cooling stage to about 90°C (6:17-19, 13:14-41 and examples). Woodhams also teaches a water spray cooling system (Fig. 1, element 20) and cutting (6:17-19). As such, a person having ordinary skill in the art would have found it obvious to have used staged cooling and cut it to length thereafter, as taught by Woodhams, in the process of Godavarti et al., and would have been motivated to do so since Woodhams suggests that such cooling preserves orientation and prevents die swell and forms a desired length product.

Regarding claims 32-33: Godavarti et al. teaches fibers from an agricultural by-product, namely, wood (8:23-59).

Art Unit: 1732

Regarding claim 35: Godavarti et al. teaches polypropylene (Fig. 3).

Regarding claims 36 and 38: Godavarti et al. teaches 0.01-20 wt. % maleic anhydride (10:10-48).

Regarding claim 37: Godavarti et al. teaches a building board/panel (Fig. 1-2).

Claims 48-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godavarti et al. (US Pat. 6,265,037) in view Woodhams (US Pat. 5,474,722) and Ertle et al. (US Pat. 6,312,639).

Regarding claims 48 and 54: Godavarti et al. teaches the basic claimed process of forming a composite article, comprising: adding 50-2000m wood fibers (8:22-59); drying or heating the fibers to remove moisture (4:45-51); various fillers including glass fibers (12:29-49); and contacting a molten/hot plastic with fibers and then forming the mixture with a die (13:20-67).

It is inherent that the process of extrusion contact a molten plastic with the fibers. Also, Godavarti et al. inherently teaches the broad limitation of injecting hot plastic into a container, since the material is molten in the area of the extruder where intimate mixing occurs within the extruder.

Godavarti et al. does not teach a composite comprising about 35% glass fibers, about 25% wood, and the balance being a plastic material. Nonetheless, Woodhams teaches that fiber content can be a total of about 80% (5:49-51) and Ertle et al. teaches that it is well known the prior art to use a combination of various fillers/fibers (26-51). Godavarti et al., Woodhams, and Ertle et al. are combinable because they are from the same field of endeavor, namely forming filled plastic composites. It is further submitted that glass fibers or staple fibers are well known in the art to be within about 1/2 to 1 inch in length. At the time of invention a person having ordinary skill in the art would have found it obvious to have used any combination of fibers or fillers in an amount of up to a total of 80%, as taught by Ertle et al. and Woodhams, in the process of Godavarti et al., and would have been motivated to do so in order to produce a composite of desired mechanical properties (ie. filler content dependent).

Regarding claim 49: Godavarti et al. does not teach a gravimetric feeder. Nonetheless, Woodhams teaches a gravimetric feeder (5:10-12). At the time of invention a person having ordinary skill in the art would have found it obvious to have used a gravimetric feeder, as taught by Woodhams, in the process of Godavarti et al., since Woodhams suggests such feeder provides a controlled weighted quantity of fiber to form a desired resin/fiber mixture.

Art Unit: 1732

Regarding claims 50 and 51: Godavarti et al. teaches applying a vacuum to the mixture in a twin screw extruder (4:55-61).

Regarding claims 52: Godavarti et al. does not teach drying the fibers at about 425°F (218°C). However, Woodhams teaches that wood fibers tend to decompose about 220°C (4:47-50) and that processing in excess of such temperature must be avoided. It is well known in the art that to dry materials, such as wood, at high temperatures in order to remove the greatest amount of water in the shortest processing period. As such a person having ordinary skill in the art would have found it obvious to have dried the fibers at about 425°F, as commonly practiced in the art, in the process of Godavarti et al., and would have been motivated to do so since Woodhams suggests a maximum process temperature of 220°C.

Regarding claim 53: Godavarti et al. teaches dyes (10:44-48).

Regarding claim 55: It is inherent that the extrudate of Godavarti et al. cools, at least to ambient temperature, upon exiting the die.

Regarding claims 56-58: Godavarti et al. does not teach staged cooling, with a first cooling stage to about 200°F (93°C). However, Woodhams teaches staged cooling, with a first cooling stage to about 90°C (6:17-19, 13:14-41 and examples). Woodhams also teaches a water spray cooling system (Fig. 1, element 20) and cutting (6:17-19). As such, a person having ordinary skill in the art would have found it obvious to have used staged cooling and cut it to length thereafter, as taught by Woodhams, in the process of Godavarti et al., and would have been motivated to do so since Woodhams suggests that such cooling preserves orientation and prevents die swell and forms a desired length product.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1732

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaiaanni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mark Eashoo, Ph.D.  
Primary Examiner  
Art Unit 1732

3/1/04

3/1/04  
me